

# PRICE LIST

AND BRIEF WORKING INSTRUCTIONS

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# AUTOTYPE

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## CARBON AND CARBRO PROCESSES

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## BRIEF WORKING INSTRUCTIONS

FOR

# THE AUTOTYPE CARBON PROCESS

**T**HE basis of the Autotype Carbon process is the insolubilisation by light of pigmented gelatine sensitised with Bichromate.

Photographs can be reproduced in a variety of colours and Pigment Papers chosen to suit the photographer's taste. A list of colours will be found later in the book, and a Colour Chart can be supplied for a nominal charge.

### OUTLINE OF PROCESS

Sensitive Pigment paper exposed to light behind a negative is insolubilised in proportion to the varying densities of the negative.

After exposure the Pigment paper is soaked in cold water and then squeegeed into contact with a piece of gelatine-coated Transfer paper.

Development is carried out in warm water, which dissolves away all the pigmented gelatine not insolubilised during exposure.

### SENSITISING

Immerse the Pigment paper in a solution of Bichromate of Potassium, made up as follows :

Dissolve 1 oz. (50 grams) of pure Potassium Bichromate in 20 ozs. (1,000 c.c.) of water. When cold, filter through muslin and bottle as "stock solution." This solution can be used at full strength when sensitising for exposure under contrasty negatives—at half strength for normal negatives, and 1-4 parts of water for thin, soft negatives.

Immerse the Pigment paper in the solution for 2 minutes at a temperature of 65 deg. Fahrenheit, remove and lay coated side downwards on a sheet of glass, squeegee off surplus solution from the back, and hang up to dry in the dark. Drying should be completed within 2-2½ hours.

### EXPOSING THE PIGMENT PAPER

Fit the negative with a mask and place in a printing frame with a piece of sensitive Pigment paper of a size slightly larger than the mask opening. Exposure must be judged by an Actinometer, as no visible change of the Pigment paper is noticeable. According to the density of the negative so one judges how many Actinometer tints are necessary—usually one tint for thin negatives—two for medium, and three or four for dense ones are necessary.

### MOUNTING

Soak a piece of Single Transfer paper in cold water of about 60 deg. Fahrenheit until quite limp, then soak the exposed Pigment paper in cold

water, and before it is quite limp, bring the two papers together and squeegee into contact. Place between Absorbent Boards or Blotting Paper for about 10 minutes and then proceed to develop.

## DEVELOPMENT

The development of a Carbon Print is a simple matter, no chemicals being required. The pigment paper on the support paper is placed in a dish of warm water. Start with a temperature of about 95/100 deg. Fahr. Keep the two papers, still adhering, well covered by the warm water, and wait until the pigment commences to ooze round the edges. As soon as this occurs, carefully lift one corner of the pigment paper, and keeping them under water, steadily strip the two apart. The support paper will now be seen to be covered with a thick coat of pigment.

Gently splash the face of the print with the warm water, and as the picture begins to reveal itself the splashing may be local, if it is desired to reduce any particular portion. Should the print be too dark all over, the temperature of the water may be increased.

When development is complete, the picture is rinsed in cold water and placed in a 3 per cent. solution of potash alum until the bichromate stain has disappeared. Finally, the print should be washed thoroughly in order to remove the alum.

## OTHER SUPPORTS

Carbon prints may also be developed directly on such non-porous materials as glass, opal glass, aluminium, celluloid, etc., etc.

## DOUBLE TRANSFER

Prints made by the method just described will be reversed unless printed through the "wrong" side of a film negative or from reversed negatives specially made for the purpose. By the Double Transfer method, however, prints are obtained the correct way round from all ordinary negatives.

The Pigment paper is printed as previously described, but is squeegeed and developed on a Waxed Temporary Support instead of a Transfer paper. The "temporary supports" usually employed are :

(1) Flexible Temporary Support, No. 112 (Thick) : a stout, hard coated paper giving a print with a slightly glazed surface.

(2) Matt Surface Opal Glass : giving prints with a matt surface.

Both of these Supports must be prepared with Autotype Waxing Solution (which must be done at least an hour before use) to enable the print to be transferred to a final paper.

The developed print, on its Temporary Support 112/Thick, is dried and then re-soaked in cold water. Now take a piece of Double Transfer paper, soak it in cold water until thoroughly limp, transfer to warm water at 90 deg. Fahrenheit until the coating feels slimy, and then bring into contact with the Carbon print on the Temporary Support and squeegee together. Hang up, and when dry the Support paper will strip from the Temporary Support. The Temporary Support may be re-waxed and used again.

# BRIEF WORKING INSTRUCTIONS

FOR

# THE AUTOTYPE CARBRO PROCESS

**C**ARBRO is a special process devised for producing Carbon prints from Bromide prints—hence the name CARBRO.

The basis of the process is the chemical action which takes place between the surface of the Pigment Paper and the bromide print itself ; this insolubilises the pigment and takes the place of the exposure to light required by the Carbon process. It has the great advantage that enlarged or reversed negatives do not have to be made.

All Autotype Pigment Papers require the same time of immersion in Bath No. 1, namely 3 minutes.

The contrast of the resulting print is very much under control by simply varying the time of immersion in Bath No. 2.

The following are the stock articles required :

A good Bromide Print	Squeegee
Pigment Paper	Dishes
Support Paper	

A flat squeegee is best. The dishes should be porcelain or enamel.

The working baths are made up from the following Concentrated Solutions :

## *Concentrated Solution No. 1*

Potassium Bichromate	1 oz. or 10 grammes
„ Ferricyanide	1 oz. or 10 grammes
„ Bromide	1 oz. or 10 grammes
Distilled Water	20 ozs. or 200 c.c.

## *Concentrated Solution No. 2*

Glacial Acetic Acid	1 oz. or 10 c.c.
Hydrochloric Acid (pure)	1 oz. or 10 c.c.
Formaldehyde 40 per cent.	22 ozs. or 220 c.c.

In making up the Concentrated Solution No. 2, the addition of  $1\frac{1}{4}$  ozs. or 12 c.c. of water will prevent any precipitation in cold weather.

## *Working Bath No. 1*

No. 1 Concentrated Solution	6 ozs. or 100 c.c.
Water	18 ozs. or 300 c.c.

## *Working Bath No. 2*

No. 2 Concentrated Solution	1 oz. or 10 c.c.
Water	32 ozs. or 320 c.c.

(The English and Metric quantities are not equivalents, but are proportionate).

The No. 1 Bath may be used for a considerable time. It is advisable to pass it through muslin after use.

The No. 2 Bath should be frequently renewed, as it is altered by the No. 1 Solution transferred to it on each immersion. The baths should be used at a temperature of 60 to 65 deg. Fahr.

## THE PROCESS

First place the bromide print in cold water, then take a piece of pigment paper cut about half an inch larger than the bromide, and immerse in No. 1 Bath for 3 minutes, take out, and holding it by one corner, allow it to drip for 15 seconds, then immerse in No. 2 Bath for a varying time, from 10 to 30 seconds, according to the result required. Depth and brightness are the result of a short immersion, an increase of time giving a proportionate increase in softness of the result.

Place the wetted bromide print on a level sheet of glass, pour a small pool of cold water upon it, then withdraw the pigment paper from the No. 2 Bath and immediately squeegee into contact, with the squeegee held at an angle of 45 deg. Place between grease-proof papers and allow to remain for 15 minutes.

Take a piece of support paper cut slightly larger than the pigment paper, and soak in cold water for at least 5 minutes—complete wetting is necessary.

After wetting the support paper, lay it face upwards on a sheet of glass. Now take the pigment paper and bromide, and by raising one corner of the former steadily pull the two apart. Place the pigment paper face downwards on the support paper and squeegee the two into contact. Place between dry absorbent boards or blotting paper and allow to remain from 20 to 40 minutes. The longer they remain in contact the darker will be the final result. The bromide print, now bleached, is put into a dish of cold water, and washed by frequent changes of water for about 20 minutes.

If it is desired to make additional Carbro's the same bromide print can be made to serve a number of times. All that is necessary is to wash it in cold water and re-develop in ordinary photographic developer (no fixing is required), when it can be used again exactly as at first. It should be noted, however, that a slight increase in contrast takes place when the bromide print is used more than once.

Development is carried out in exactly the same way as in CARBON work, except that the developing water should have a temperature of 90 deg. Fahr. See detailed description on page 3.

## NOTES AND OBSERVATIONS

The time of immersion of 3 minutes in the No. 1 Bath is applicable to all pigment papers. Under-immersion in No. 2 Bath is indicated by heavy shadows lacking detail.

During hot weather, should the temperature of the solutions rise to much above 65 deg., the time can be reduced to 2½-2 minutes.

Bromide papers are usually supercoated in order to protect the silver emulsion from stress, etc. This supercoating sometimes causes loss of quality in the highlights of the Carbro's. Un-supercoated papers should therefore be employed and can be obtained from the Autotype Company.

We do not advocate working from other than the best Bromide papers; and although Gaslight papers of the Velox type can be used after a preparatory bleaching and re-developing, the results will not be so pleasing.



# PRICE LIST

(POSTAGE EXTRA ON ALL ITEMS).

(A) **TRIAL OUTFITS FOR CARBON OR CARBRO.**  $4\frac{3}{4}$  ins. x  $6\frac{1}{2}$  ins. 15/-.

Contain all materials necessary for an introduction to Carbon or Carbro printing. Please specify when ordering which Process is required.

## (A) PIGMENT PAPERS, INSENSITIVE

93 Terra Cotta	}	Whole Band 30 ins. x 12 ft. (76 x 360 cms.)	18/-
94 Ivory Black			
100 Standard Brown			
103 Warm Black			
104 Engraving Black			
105 Sepia		Half Band 15 ins. x 12 ft. (38 x 360 cms.)	10/-
106 Red Chalk			
107 Transparency			
137 Olive Brown			
140 Bottle Green			
145 Grey Green	}	Quarter Band 15 ins. x 6 ft. (38 x 180 cms.)	5/6
151 Sea Green			
152 Dark Blue			
162 Brown Black			
165 Italian Green			
166 Rembrandt Sepia			
168 Inkpot			
169 Vandyke Brown			

## (A) PIGMENT PAPERS IN CUT PIECES

Supplied in packets containing One Dozen Sheets of one colour.

In  $6\frac{1}{2} \times 8\frac{1}{2}$  ins. size and upwards, half-dozens may be supplied.

Sizes				Per dozen
$3\frac{1}{4} \times 4\frac{1}{4}$ ins.	9 x 11 cms.	...	...	1/3
$4\frac{3}{4} \times 6\frac{1}{2}$ ins.	12 x 16.5 cms.	...	...	2/3
$6\frac{1}{2} \times 8\frac{1}{2}$ ins.	16.5 x 21.5 cms.	...	...	4/3
8 x 10 ins.	20 x 25 cms.	...	...	5/3
10 x 12 ins.	25 x 30 cms.	...	...	7/9
12 x 15 ins.	30 x 38 cms.	...	...	10/6

Also supplied in mixed packets containing one sheet each of the twelve most popular colours.

## GREY MATRIX PIGMENT PAPER FOR DYE TRANSFER PROCESSES

Whole Band	... 30 ins. x 12 ft.	76 x 360 cms.	... 26/3
Half Band	... 15 ins. x 12 ft.	38 x 360 cms.	... 14/-
Quarter Band	... 15 ins. x 6 ft.	38 x 180 cms.	... 8/-

## CUT SHEETS

$3\frac{1}{4} \times 4\frac{1}{4}$ ins.	9 x 11 cms.	...	...	2/3
$4\frac{3}{4} \times 6\frac{1}{2}$ ins.	12 x 16.5 cms.	...	...	4/3
$6\frac{1}{2} \times 8\frac{1}{2}$ ins.	16.5 x 21.5 cms.	...	...	6/9
8 x 10 ins.	20 x 25 cms.	...	...	8/9
10 x 12 ins.	25 x 30 cms.	...	...	12/9
12 x 15 ins.	30 x 38 cms.	...	...	17/3

## SENSITISING

All Pigment Papers can be supplied ready sensitised up to size 30 ins.  $\times$  40 ins. If suitably stored they will retain their sensitivity for 7 days. Sensitising charge 6/- per dozen pieces up to 12 ins.  $\times$  15 ins.—prices for larger sizes on application.

*N.B.—Pigment Papers sold ready sensitised are liable to Purchase Tax.*

### (A) SINGLE TRANSFER PAPERS

In Bands, 12 ft. long (360 cms.).

No.	Width	Per Band
108 Medium Smooth White ... ..	36 ins.	17/-
110 White Crayon ... ..	30 "	12/-
116 Thick Smooth White ... ..	36 "	17/-
202 Rough Matt White ... ..	36 "	17/-

### (A) CUT PIECES

In Packets containing One Dozen Sheets of one variety.

Sizes	Per Dozen
4 $\times$ 5 ins. 10 $\times$ 13 cms. ... ..	9d.
5 $\times$ 7 " 13 $\times$ 18 " ... ..	1/6
7 $\times$ 9 " 18 $\times$ 23 " ... ..	3/-
9 $\times$ 11 " 23 $\times$ 28 " ... ..	4/-
10 $\frac{1}{2}$ $\times$ 12 $\frac{1}{2}$ " 26 $\times$ 32 " ... ..	6/-
12 $\frac{1}{2}$ $\times$ 15 $\frac{1}{2}$ " 32 $\times$ 40 " ... ..	8/3

### (A) FINAL SUPPORT FOR DOUBLE TRANSFER

In bands 12 ft. long—360 cms.

No.	Width	Per Band
76 Matt White Crayon ... ..	30 ins.	12/-
86 Medium Thickness, White ... ..	36 "	17/-
1160 Thick Smooth White ... ..	36 "	17/-
2020 Thick Rough White ... ..	36 "	17/-

### (A) CUT PIECES

In packets containing One Dozen Sheets of one variety.

Sizes	Per Dozen
3 $\frac{1}{2}$ $\times$ 4 $\frac{1}{2}$ ins. 9 $\times$ 11.5 cms. ... ..	9d.
5 $\times$ 7 " 13 $\times$ 18 " ... ..	1/6
7 $\times$ 9 " 18 $\times$ 23 " ... ..	3/-
8 $\frac{1}{2}$ $\times$ 10 $\frac{1}{2}$ " 21 $\times$ 26 " ... ..	4/-
10 $\frac{1}{2}$ $\times$ 12 $\frac{1}{2}$ " 26 $\times$ 32 " ... ..	6/-
12 $\frac{1}{2}$ $\times$ 15 $\frac{1}{2}$ " 32 $\times$ 40 " ... ..	8/3

### (A) TEMPORARY SUPPORT FOR DOUBLE TRANSFER No. 112 (Thick).

Special Papers prepared with insoluble gelatine and lac solution, yielding prints with medium gloss. May be used repeatedly, only needing to be rubbed over each time with waxing solution to ensure the stripping of the prints.

Sizes	Per Dozen
4 $\times$ 5 ins. 10 $\times$ 13 cms. ... ..	1/6
5 $\frac{1}{2}$ $\times$ 7 $\frac{1}{2}$ " 14 $\times$ 18 " ... ..	2/9
7 $\frac{1}{2}$ $\times$ 9 $\frac{1}{2}$ " 18 $\times$ 24 " ... ..	4/3
9 $\times$ 11 " 23 $\times$ 28 " ... ..	6/-
11 $\times$ 13 " 28 $\times$ 33 " ... ..	8/9
13 $\times$ 16 " 33 $\times$ 40 " ... ..	12/-

Sizes		Per Dozen
17 × 20 ins.	43 × 50 cms. ... ..	19/-
18 × 23 „	46 × 58 „ ... ..	22/6
24 × 30 „	61 × 76 „ ... ..	39/-

(B) **AUTOTYPE COLOUR CHART**

16 mounted prints, one in each of the 16 most popular shades of Autotype  
 Pigment Papers ... .. 4/-

(D) **AUTOTYPE RETOUCHING LEADS**

(British Made) used by leading Photographers throughout the world. In four  
 grades : Nos. 1 (B) ; 2 (HB) ; 3 (H) and 4 (HH). Per box (½ doz.) 2/3  
*Plus Purchase Tax.*

(B) **AUTOTYPE RETOUCHING MEDIUM**

The most popular and reliable Medium on the market. Per bottle 1/6

(C) **ACTINOMETERS**

Disc ... .. Price  
 5/6 Refills 1/6 doz.  
*N.B.—Actinometer Refills are subject to Purchase Tax.*

(C) **OTHER APPARATUS AND MATERIALS**

Flat Squeegees.

Length 5 ins.	...	...	...	...	...	...	...	4/-
„ 8 „	...	...	...	...	...	...	...	5/9
„ 12 „	...	...	...	...	...	...	...	7/6

Waxing Compound, in cakes, for solution in turpentine.	each	1/-
Waxing Solution, ready for use	... .. 5 oz. bottle	2/6
Waxing Solution, ready for use	... .. per pint	6/6
Potassium Bichromate	... .. per box	1/6
Greaseproof Paper, 10 × 15 ins.	... .. per doz.	1/-

(A) <b>CARBRO SOLUTIONS</b> (Concentrated).	No. 1	6 oz. bottle	2/3
„ „ „	No. 2	5 oz. bottle	2/3

(D) **BROMIDE PAPERS (SPECIAL NON SUPER COATED FOR CARBRO) (ILFORDS).**

4½ × 6½ ins.	1/9 per packet of 10 sheets.	Plus Purchase Tax	+ 2d
6½ × 8½ „	2/9 „ „	Plus Purchase Tax	+ 11d
8 × 10 „	3/9 „ „	Plus Purchase Tax	+ 1/3
10 × 12 „	5/6 „ „	Plus Purchase Tax	
12 × 15 „	8/3 „ „	Plus Purchase Tax	
8 ins. × 25 ft.	10/9 per roll	Plus Purchase Tax	

(C) **PUBLICATIONS—**

“ Autotype Colour Printing Processes ”	...	4/- (post free 4/3)
“ The Carbro Process ”	... ..	7d. (post free 9d.)